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TITLE: PHOTOCONDUCTIVE ELEMENT AND METHOD FOR MANUFACTURING THE SAME

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ABSTRACT:

PROBLEM TO BE SOLVED: To enable manufacture without having to use complex working methods, and to allow faster operation.

SOLUTION: An average particle size of a diamond layer 2 among an electrode 3 is smaller than an inter-electrode gap 6. Thus, a grain boundary

exists at the inter-electrode gap. When the diamond layer 2 between the gaps 6 is irradiated with an excitation light 5, an electron and positive hole are produced as optical carriers in the diamond layer 2, each of which moving the facing electrodes 3 which are respectively biased. Since the electron and positive hole cause recombination at the grain boundary of diamond, the lifetime of the optical carrier can be made shorter and with faster operation. Since a part facing the electrode 3 is surrounded by the diamond layer 2 and an overcoating diamond layer 4, the electrode 3 can be applied with a large bias, so that high output is obtained.